

WHAT IS CLAIMED IS:

5 1. An air conditioner for vehicles, comprising:

10 a housing having: an evaporator and a heater core in the front and back of its interior respectively, with a horizontal partition wall arranged inside the housing to divide the interior of the housing into upper and lower air passages, a floor vent formed on the housing at a position around the air outlet end of the lower air passage, and a defrost vent and a face vent formed on the housing at positions around the air outlet end of the upper air passage with vent control door mounted to each of the vents so as to control the vents respectively;

15 a scroll case installed at the air inlet end of the housing, with the interior of the scroll case being divided into upper and lower scroll compartments by a horizontal extension of the partition wall;

20 an upper blower fan rotatably positioned within the upper scroll compartment;

25 a lower blower fan rotatably positioned within the lower scroll compartment, with a drive motor installed at the lower portion of the lower scroll compartment and being used for operating the upper and lower blower fans;

an intake duct provided with a recirculation air intake opening, a fresh air intake opening and an intake control door selectively opening or closing the two intake openings to introducing recirculation or fresh air into

the scroll case by controlling a plurality of openings;

an air guide duct connected with both the scroll case and the air inlet end of the housing so as to guide recirculation or fresh air fed from an intake duct to one of the upper and lower scroll compartments, selectively; and

a passage divider provided on the top wall of the upper scroll compartment configured to selectively divide the interior of the intake duct into two passages, separately communicating with the upper and lower scroll compartments, and in cooperation with the intake control door placed at a predetermined position, whereby the passage divider thus selectively allows fresh air to exclusively flow into the upper scroll compartment and recirculation air to flow into the lower scroll compartment.

2. The air conditioner for vehicles according to claim 1, wherein the passage divider is formed in the shape of a prominence.

3. The air conditioner for vehicles according to claim 1, wherein the passage divider is formed in the shape of a depression.

4. The air conditioner for vehicles according to claim 1, additionally comprising a communication vent controlled by a vent control door that is formed at the rear portion of the horizontal partition wall to allow the upper and lower

air passages to communicate to each other.

5. An air conditioner for vehicles, comprising:

5 a housing defining a chamber, wherein the chamber defines first and second openings configured to allow first and second air flows to enter an inside of the chamber, respectively;

10 a partition member configured to divide the inside of the housing into first and second passages, the partition member extending through the inside of the chamber and configured to divide the chamber into first and second compartments;

15 a first heat exchanger configured to pass through an opening in the partition member so as to be located in the first and second passages;

a first blower fan located in the first compartment of the chamber and configured to blow at least one of the first and second air flows to the first heat exchanger along the first passage; and

20 a second blower fan located in the second compartment of the chamber and configured to blow at least one of the first and second air flows to the first heat exchanger along the second passage.

25 6. The air conditioner of Claim 5, wherein the chamber includes a door configured to adjust the first and second openings.

7. The air conditioner of Claim 6, wherein the chamber

includes a third passage configured to allow at least one of the first and second air flows to be communicated to the second blower fan.

5 8. The air conditioner of Claim 5, wherein the chamber includes a dividing member configured to selectively control the amount of the first and second air flows that enter the first and second blower fans.

10 9. The air conditioner of Claim 5, further comprising a motor configured to rotate the first and second blower fans at the same time and wherein the first and second blower fans are connected to each other across the partition member so that they are rotated at the same
15 speed by the motor.

10. The air conditioner of Claim 5, further comprising a second heat exchanger configured to pass through an opening in the partition member and located in the first and second passages, wherein the second heat exchanger is
20 separated from the first heat exchanger by a portion of the partition member.

11. The air conditioner of Claim 10, further comprising a
25 vent configured to allow communication of the air flows, heat-exchanged by the second heat exchanger, between the first and second passages before discharging the air flows outside the air conditioner.